PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BCHydro

BRITISH
COLUMBIA

Fisheries Program
Annual Report 1993/94

B. G. Blackman
April 2000

PWFWCP Report No. 218

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The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave. 3rd Floor, Prince George B.C. V2L 3H9

Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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PEACE / WILLISTON FISH AND WILDLIFE COMPENSATION PROGRAM

FISHERIES PROGRAM ANNUAL REPORT 1993/94

STEERING COMMITTEE MEMBERS:

K. Child (B.C. Hydro)
Z. Hawthorn (B.C. Hydro)
H. Andrusak (B.C. Environment)
D, Zirul (B.C. Environment)

TECHNICAL COMMITTEE MEMBERS:

O. Fleming (B.C. Hydro)
D. Abelson (B.C. Environment)
T. Down (B.C. Environment)
H. Smith (B.C. Hydro)

TECHNICAL ADVISOR

K. Ashley (B.C. Environment)

FISHERIES PROGRAM STAFF

B. Blackman (B.C. Environment)
A. Langston (B.C. Hydro)

PROGRAM ADMINISTRATION

B. Blackman and A. Langston have continued as full time biologists responsible for planning, administering, managing and conducting research and enhancement projects within the Fisheries section of the Peace/Williston Fish and Wildlife Compensation Program. A. McLean provided technical support for approximately half of the year. Members of the Steering Committee this year were, K. Child (Chair),and Z. Hawthorn from B.C. Hydro and H. Andrusak and D. ZiruL from B.C. Environment. Members of the Fisheries Technical Committee were O, Fleming (Chair) and D. Wilson (B.C, Hydro) and D. Cadden and T. Down (B.C. Environment) K. Ashley (B.C. Environment) was Technical Advisor.

Administrative duties of the project biologists included preparation of the Annual Report, Quarterly Reports, project accounting and contract management.

PROGRAM PLANNING

Two technical meetings were held this year to discuss the current year's projects and to prepare a budget for the 1994/95 fiscal year. An application was made to the Habitat Conservation Fund for $35,000 to assist in the construction of Carbon Creek Side Channel, but it was not approved.

PUBLIC CONSULTATION

No open public meetings were held this year, but two issues of Natureline were released and display panels were purchased for future use. Presentations were made to the Peace / Williston Advisory Committee, Spruce City Wildlife Association, Mackenzie Fish and Game Association etc. Media coverage (CTV & CBC) of the Dina Creek Project provided very positive exposure of the program.

PROJECT SUMMARIES

1 Report Preparation

Objective: The preparation of annual and quarterly reports, and the preparation of reports from previous studies.

The annual and quarterly reports for 1992/3 were completed on schedule. Reports were also completed on:

- The Gantahaz Creel Survey;
- A draft report summarising the biophysical results of all the stream inventory work with a prioritised list of potential enhancements;

- An Arctic grayling proposal, providing a short background and recommendations was prepared for the Technical Committee, to provide information requested by the Provincial Fisheries Branch in Victoria; and.
- Age back calculations were conducted rainbow trout from previously collected sale samples. Data analysis will begin in 1994 and a report should be completed by fall.

INVENTORY AND ASSESSMENT

2 Small Lake Inventory

Five small lake surveys were completed this year. One partial survey was also conducted to complete work started in 1992.

3 Small Lake Enhancement Assessments

Objectives The feasibility of potential enhancement projects on several small lakes were examined.

No priority enhancements were found. Less time was spent on this project than was budgeted because of manpower limitations.

ENHANCEMENTS

4 Mesilinka River Stream Fertilization

Objective: Examine the effectiveness of low level inorganic fertilization as a technique to increase size at age and standing biomass in a cold northern river.

This project, co-ordinated by B.C. Environment staff has progressed on schedule and on budget despite much higher than normal water levels. Tributary trapping was not completed but two tributary streams were fertilized and fish population estimates were completed,

5 Windy Point Upwelling Station

Objective: Relieve a chronic spawnbound problem in a small stocked lake.

This project required more manpower than anticipated because the recommended water pump and one with double the capacity were insufficient to provide adequate flows to operate the station properly. Up to 40 rainbow trout at a time were using the station, despite the low flows. A proper pump has been purchased, the hydro line and pump house have been completed, but the hydro connection and clean up of the line will be deferred to 1994.

6 Dina Creek Stream Improvement

Objective: Provide improved spawning and rearing habitat for rainbow and brook trout.

This project has been tremendously successful, with the Mackenzie Fish and Game Club providing an additional $5,000 in funds and approximately 500 hours of labour to assist in stream complexing. Media coverage of the project has been excellent (National coverage on CBC). Over 150 rainbow trout and approximately 40 brook trout spawned in this stream, providing very popular viewing opportunities.

7 Small Lake Stocking

Objective: Provide funds to cover costs above the normal Provincial stocking program

Approximately 121,500 rainbow trout were released into 18 lakes, 45,000 brook trout were released into three lakes and 400,000 kokanee were released into four rivers.
Cost overruns on this project were due to additional unexpected funding required for kokanee production.

8 Arctic Grayling Transplant

Objective: Create a genetic reserve population of Arctic grayling in a barren headwater lake.

A total of 25 fish were transplanted into little Calais Lake. These numbers, in addition to the 58 grayling transplanted in 1992, should provide an acceptable number of individuals from which to build a genetic reserve population. This year there were only three mortalities, a great improvement over the 1992 program. Very few large fish were captured and numbers appeared to be lower than in 1992.

9 Carbon Creek Side Channel

Objective: Create high quality spawning and early rearing habitat for fish species in Carbon Creek.

No construction or contracts were issued for this project. Data was provided to B.C. Hydro's Hydroelectric Engineering Division, who provided cost estimates for evaluating potential groundwater flows. The Hydroelectric Engineering Division also suggested that excavating the channel would provide more accurate information at reduced costs, however that construction would have to be stopped if flows were insufficient,

10 Gething Creek Bull Trout Transplant

Objective: Transplant and monitor bull trout upstream of a barrier to provide improved spawning and rearing habitat.

A total of 34 work days were charged to this project (12 PWCP, 12 BCH, 10 MOELP). An additional 20 days were volunteered by regional MOELP staff and local volunteers. Manpower requirements were more than expected because of high stream flows, A total of twelve bull trout nine females and three males, were moved to and spawned in the upper reaches of Gething Creek. These fish were recaptured and transported back to Dinosaur Reservoir because of the potential mortalities which would result from descending the falls on Gething Creek.

11 Grizzly Lake Rainbow Trout Transplant

This activity was not undertaken because of manpower limitations.

12 Pine River Debris Catchers

Objective: Provide instream habitat for adult sport fish species.

This project was administered by T. Down, Fisheries Section Head in Ft, St. John. There were six sections of the stream enhanced using a total of 11 debris catchers, two bank boulder groins and one bank anchored LOD unit. The total costs were $40,000 HCF funds plus $14788 from PWFWCP.

13 Stewart Lake Flow Control

Objective: Maintain a high quality fishery in Stewart Lake by stabilizing lake volume to provide protection against a winter kill.

This project was administered by T. Down Fisheries Section Head from Ft. St. John. Engineering plans for the construction of the weir were developed at a cost of $24,500 ($16,500 PWFWCP funds plus $8,000 from the Habitat Conservation Fund). An additional $17,600 (PWFWCP funds) was used to purchase materials for the weir construction in 1994. The Habitat Conservation Fund has approved $50,000 for 1994.

14 Enhancement Signs

Objective: Produce signs to help inform the public of Compensation Program activities and projects.

Locations and layouts for the signs were developed but no agreement could be reached on the final wording of the signs. The funds were spent for small posters and plywood backing.

15 Firth Creek Enhancement

Objective: Provide habitat improvements on a small stream.

This project was not budgeted for and was completed under the Environmental Youth Crew Program initiated by B.C. Hydro in Prince George. Costs to BCH were $4000 plus wages for four students. This enhancement was a habitat improvement project on a small stream crossing a hydro right of way.

EVALUATIONS

16 Kokanee Spawner Survey

Objective: Evaluate the effectiveness of the kokanee stocking program in Williston Watershed.

This project consisted of a small contract to the Hudson's Hope Rod and Gun Club and helicopter surveys to count kokanee returning to the streams where they were released. No kokanee were observed, however there were some unverified reports of kokanee sightings in the Nation and Manson Rivers.

17 Carbon and Dunlevy Spawner Surveys

Objective: Evaluate the effectiveness of the rainbow trout stream stocking projects

Electrofishing surveys were conducted on Dunlevy Creek to evaluate returns from the rainbow trout stocking program. The spawning period was earlier this year and most trout captured had spawned, therefore some of the spawners may have been missed. Three marked (stocked) trout were found spawning in Dunlevy (out of a total of 54 spawners), but two of these fish had been released into Carbon Creek.

No snorkel surveys were conducted in Carbon Creek because of the high water levels. A one day angling survey did capture one marked rainbow trout (out of 5 Rb), a female that appeared to have spawned.

18 Small Lake Evaluations

No small lake evaluations were conducted this year because of budgetary and manpower constraints.

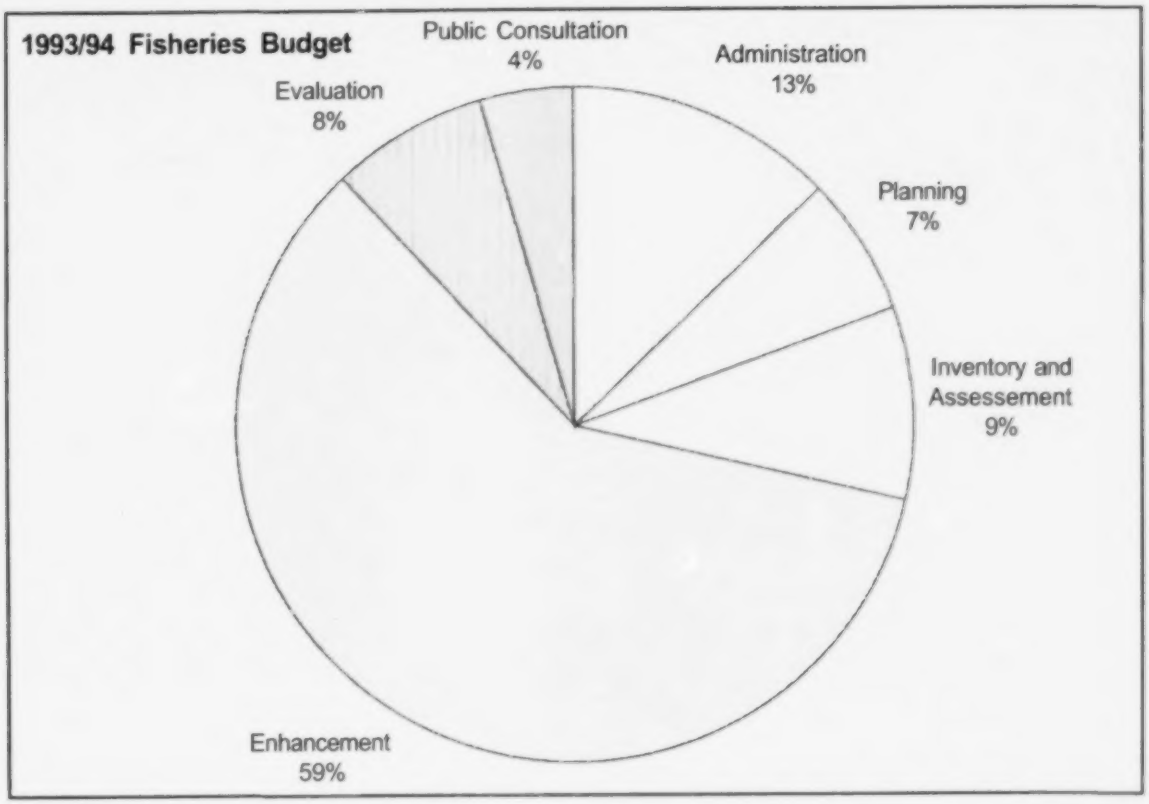
FINANCIAL SUMMARY

The budget for 1993/94 was $440,000. The expenditures for the year were $416,739 an under expenditure of $23,000. This under expenditure was the result of not conducting the Carbon Creek Side Channel Project, a major capital enhancement project. Some of this money was expended to purchase Stewart Lake Weir materials ($17,000) for the 1994/5 project year and to hire a student to tabulate data gathered in previous years ($8,000).
This year enhancement projects accounted for 60% of the budget, and this trend should continue for a few years, although at some time inventory and evaluation costs will have to increase. Administration costs were lower than in previous years but still above the targeted 10% .
Public consultation costs comprised only 4 % of the budget this year primarily because no large public meetings were held.

Table 1. 1993/94 Financial Summary

PROJECT	Work Days	Wages	Capitol Costs	Travel Costs	Project Total
Administration	102	25574	21008	400	46982
Budget	14	3600		350	3950
Planning	52	13189		6471	19660
Report Preparation	97	16822	252	250	17324
Public Consultation	42	10110	5349	1070	16529
Mesilinka Fertilization	36	8662	68000	3005	79667
Windy Point	28	6714	6484	1665	14863
Kokanee Spawner Survey	13	3123	12183	810	16116
Dina Creek	43	10170	17994	1850	30014
Dunlevy/Carbon Eval	18	4113	119	745	4977
Small Lake Stocking	3	111	14643	410	15830
Grayling Transplant	15	3763	2286	1850	7899
Carbon Side Channel	17	4290	0	755	5045
Gething Bull Trout	34	6363	17622	1750	25735
Grizzly Lake transplant	0	0	0	0	0
Pine River Enhancement	0	0	14788	0	14788
Stewart Lake Flow Control	0	16	34100	0	34116
Enhancement Signs	9	2259	454	200	2913
Small Lake Evaluations	2	391	0	30	421
Small Lake Inventory	47	9882	7599	2245	19726
Small Lake Enh Assessment	4	1014	0	225	1239
Firth Creek	12	2916	0	800	3716
Misc	24	5842	22332	812	28986
Equipment		0	5342	900	6242
TOTAL	**611**	**139590**	**250555**	**26593**	**416738**

PROJECT TYPE	WORK DAYS	% TIME	PROJECT WAGES	PROJECT COSTS	TOTAL COST	%	AMOUNT BUDGETED
ADMINISTRATION	126	21	31,648	21,758	53,406	13	39,339
PLANNING	97	16	20,296	7198	27,494	7	41,492
INVENTORY & ASSESSMENT	89	15	18,508	19542	38,050	9	14,055
ENHANCEMENT	213	35	49,874	197,994	247867	60	263,242
EVALUATION	40	7	8,171	23,585	31,756	8	53,400
PUBLIC CONSULTATION	46	8	11,093	7073	18,166	4	31,504
TOTAL	**611**	**100**	**139590**	**277150**	**416739**	**100**	**443032**


1993/94 Fisheries Budget
Public Consultation
4%
Administration
13%
Evaluation
8%
Planning
7%
Inventory and
Assessement
9%
Enhancement
59%